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Custom mixing '87

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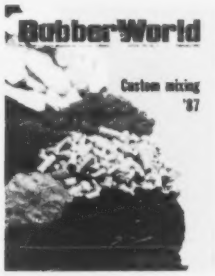

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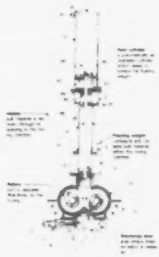

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by Jon Menough, contributing technical service editor. This month's column looks at fillers used in rubber compounding, such as clay, calcium carbonate, coal and others. Health aspects and uses of the fillers are discussed.

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by David Crosby, Crosby & Co. The author examines the quality success/failure cycle, where quality is improved after customers complain, but returns to below standards quality until complaints are again made.

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by Bill Stahr, Brad & Associates. This column reviews the Polyurethane Manufacturers Association's Processing Techniques Seminars, one day meetings offering technical paper presentations by industry experts and informal workshop dialogue on polyurethane processing problems and concerns.

19 Banbury mixing optimization using Taguchi design of experiments technique
by John D. Rulon, Sheller-Globe Corp. The purpose of the experiment described in this article is to optimize mixing conditions and to send a more consistent and better mixed product to the extrusion lines by using the Taguchi design of experiments technique.

26 The use of the MPT in predicting processability
by John A. Sezna, Monsanto Co. and Mark J. Saake, United Technologies — Automotive. A capillary rheometer with a die swell detector was used in this study to measure variations in production compounds for an extrusion process, proving to be a much more sensitive instrument for detecting variations in the flow properties of rubber compounds than the oscillating disk rheometer.

36 Custom mixing directory
This directory of U.S. custom mixers of rubber and other rubber custom services suppliers is accompanied by a map showing their locations and a special literature page featuring brochures on custom mixers and custom services suppliers.

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Cover

Cover photos courtesy of Pawling Corp.

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Business Briefs

GenCorp reported net income of $130 million for 1986 with net sales of $3.1 billion.

Parker Hannifin reported second quarter net income of $21.1 million on sales of $446 million.

Standard Products reported net sales of $118.5 million for the second quarter with net income at $7.5 million.

Markets, news

The International Institute of Synthetic Rubber Producers projects an annual growth rate of 0.3% in North America through 1991 and a 1.2% yearly growth in synthetic rubber production in Western Europe for the same period. Total new rubber consumption fell 1% in North America in 1986 according to the IISRP's preliminary report, and rose 1.3% in Europe. For North America, demand for SBR will decline over the next five years by 0.3% a year, EPDM, in non-tire applications such as roofing and underhood automotive parts will exhibit the fastest growth of the general purpose elastomers, with demand increasing at a 2.3% per year rate and demand for thermoplastic elastomers is expected to reach 250,000 metric tons by 1991 compared to the 200,000 mt consumption of 1986.

After a year of little increases in custom mixing capacity or capacity utilization, many mixers of custom rubber and those offering custom services to the rubber industry plan expansions of their business according to a *Rubber World* survey of North American custom mixers. Among those indicating an increase in capacity are: Uniroyal Plastics has a multi-million dollar expansion project coming on stream early this year that will increase capacity from 65 million lbs. to 100 million lbs. per year; Polysar Rubber Services is undergoing expansion in silicone compounding and is increasing pelletizing capability at its East Brunswick, NJ plant; Burton Rubber, which was bought by the M. Hanna Company, indicated it would increase capacity in 1987 after increasing capacaity 10% in 1986; Colonial Rubber was expanding into plastics compounding and Pawling Corp. modified mixing equipment to increase capacity and went to three shifts. Those that increased capacity in 1986 were Depco, Rainbow Mastermixing and Valley Processing.

Among the companies offering custom services to the rubber industry, very little expansion took place in 1986, but some had plans for this year. Chemical Associates will be adding bulk storage and mixing equipment; Rubber/Urethanes is adding a 75,000 sq. ft. manufacturing plant in Gainesville, TX; Salem-Republic Rubber is doubling calendering capacity and Sparton Enterprises is increasing grinding capacity by 25% after increasing it by the same amount in 1986.

Besides Burton, ownership also changed for J-Sil U.S. and Western Silicone Rubber who were bought by Dow Corning and Hoover-Hanes and Midwest Rubber who were purchased by a divison of Rubatex Inc.

Users of hard rubber standards are urged to comment on the proposed withdrawal of four ASTM standards. The withdrawal is due to a lack of technical expertise and interest in standards D 530, D 639, D 2135 and D 2707. Further information is available from ASTM.

RMA tire report through November
(figures in thousands of units)

Passenger tires	YTD 1986	YTD 1985	%change
Shipments			
Original equipment	52,399	51,121	2.50
Radial	42,599	42,631	-0.08
Replacement	133,367	130,691	2.05
Radial	115,429	106,115	8.78
Export	3,696	4,317	-14.38
Radial	2,844	3,333	-14.67
Total	189,462	186,129	1.79
Radial	160,872	152,079	5.78
Production	146,743	151,099	-2.88
Radial	124,472	121,176	2.72
Truck & bus tires			
Shipments			
Original equipment	6,357	7,182	-11.49
Radial	4,273	4,542	-5.92
Replacement	28,987	29,588	-2.03
Radial	14,459	12,824	12.75
Export	1,184	1,233	-3.97
Radial	706	622	6.65
Total	36,528	38,003	-3.88
Radial	19,438	18,028	7.82
Production	28,363	32,038	-11.47
Radial	14,014	14,701	-4.67

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